high stage of the water and since the final subsidence; and it seems that the region of the eastern margin of Lake Bonneville has recently fallen and is still subsiding. Mr. Gilbert has also found that a recent fault has taken place along the Wasatch range, not yet completed in the rear of Salt Lake city, and that the Wasatch range, the greatest mountain mass of Utah, has recently increased in height, and is supposed to be still growing.

The remains of Lake Bonneville is now but a great shallow brine pool, and resting on the surface of a broad plain. "Its mean depth is scarcely fifteen feet, and only a slight oscillatory movement of the plain would be necessary to decant its waters into another portion." It thus appears that the Mormons are exposed to the liability not only of losing their lake, but also their chief city!

HOPLEY'S SNAKES, CURIOSITIES AND WONDERS OF SERPENT LIFE.[1]—This pleasantly written book ought certainly to cure some of its many readers of their inherited hatred of snakes. The introduction brings out amusingly the confusion of names and natures which prevails among humanity, and the publisher's dread that he should lose subscribers if he put snakes in his magazine is but a mild manifestation of the ordinary horror of these creatures.

Thoroughly aware that the majority of even those people who have read of the peculiar structure of the skeleton, and especially of the jaws of a snake, do not realize the manner in which these peculiarities, correlated as they are with important departures from the ordinary reptilian type in the soft parts of the body, modify the habits and actions of snakes, Miss Hopley is careful to describe from the life how snakes feed; what the tongue is and is for; how snakes breathe and hiss; how they climb and constrict their prey; and how their teeth and fangs are constructed and arranged.

The author avers that a few years ago she knew nothing about snakes, and it is this fact, joined with sound judgment and correct observation, that has enabled her to write a book that speaks to those who do not know. When she discusses such questions as "Do snakes drink?" "Do they incubate their eggs?" and "Do they afford a refuge to their young?" she not only critically examines the opinions of others, but adds observations of her own that seem convincing. For example, the yellow Jamaica boa's method of imbibition, is thus described: "The snake kept its mouth just below the level of the water, and the only action or movement seen was at the back of the head, or on each side of the neck, like a pulsation, as the water passed down in short gulps. This is the 'suction' which writers describe, a drawing in of the liquid; but the lips do not take part in the act. When,

[1] *Snakes, Curiosities and Wonders of Serpent Life.*—By Catherine C. Hopley. Griffith & Farran, St. Paul's Churchyard, London, and E. P. Dutton & Co., New York, 1882.

therefore, we read that snakes drink both by lapping and by suction, we may surmise that the former is for the benefit of the tongue." The incubation of *Python sebæ* is described, and the viviparity or oviparity of snakes generally, is clearly shown to depend simply upon the longer or shorter retention of the eggs within the body of the mother, and to vary in the same species. That some species afford a refuge for their young, is regarded as proved, and the author believes that this occurs in viviparous snakes, or in those in "which from some cause or other extrusion has been so postponed that the young are conscious of existence before birth." The habit is referred to a knowledge on the part of the young of the locality which formerly afforded protection, and remembrance on the part of the mother of previous protection afforded. The protrusion of the glottis during the act of swallowing, so as to enable the snake to breathe while the entire space between its jaws is occupied by living prey, is another little-known point in the economy of snake-life that is rendered clear in these charming pages.

Fascination is explained as of varied origin, in some cases curiosity, in others fear, in still others maternal anxiety for the fate of the young. The swiftly darting tongue is spoken of as a successful lure for birds, which appear to mistake it for a worm or insect. Cures for snake bites are discussed, and it is shown that though many powerful stimulants are successful as remedies, no real antidote for snake-poison is yet known. The illustrations, though few, are well chosen, and most of them original, showing attitudes assumed by snakes under various conditions.

The general reader will find the book a fascinating one, while the more scientific student will rise from its perusal with the consciousness that, though he might have previously known a great deal about snake anatomy, he has learned something new about snakes themselves.

BULLETIN OF THE BUFFALO SOCIETY OF NATURAL SCIENCES.—The final number of the fourth volume of the organ of this active society has just been received. It is a brochure of nearly 140 pages, and is devoted to an enumeration of the cryptogamic plants of Buffalo and its vicinity, in continuation of the catalogue of phænogamous plants, by David F. Day, forming Part III of the same volume. The first two numbers contain entomological, palæontological and ornithological papers of value.

THE STANDARD NATURAL HISTORY.—Nos. 7 to 10 of this valuable publication have reached us. In No. 8 the account of the stalk-eyed Crustacea, prepared by Mr. J. S. Kingsley, is finished; then succeeds the sessile-eyed Crustacea; the groups of Arthropoda of doubtful position, including the Pycnogonida, the Trilobites and Merostomata, as well as the Pentastomida, all prepared by Mr. Kingsley, who then offers an introduction to Class II, Insecta, the part closing with the commencement of an account